

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in this application:

#### **Listing of Claims:**

Claims 1-45 (canceled)

Claim 46. (new) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule encoding pokeweed antiviral protein; and
- (ii) an inducible promoter which induces expression of said pokeweed antiviral protein in said specific cells upon exposing of said plant to said pathogen or said chemical or allowing said natural development of said plant,

wherein expression of said pokeweed antiviral protein induces cell death in said specific cells of said plant.

Claim 47. (new) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule as depicted in SEQ ID NO:3 encoding a mature PAP-S protein or a nucleic acid molecule that binds under stringent hybridization conditions to SEQ ID NO:3 and encodes a mature PAP-S protein capable of inducing cell death; and
- (ii) an inducible promoter which induces expression of said mature PAP-S protein in said specific cells upon exposure of said plant to said pathogen or said chemical or allowing said natural development of said plant,

wherein expression of said mature PAP-S protein induces cell death in said specific cells of said plant.

Claim 48. (new) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or said chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule as depicted in SEQ ID NO:5 encoding a mature PAP-S  $\alpha$  protein or a nucleic acid molecule that binds under stringent hybridization conditions to SEQ ID NO:5 and encodes a mature PAP-S  $\alpha$  protein capable of inducing cell death; and
- (ii) an inducible promoter which induces expression of said mature PAP-S  $\alpha$  protein in said specific cells upon exposure of said plant to said pathogen or said chemical or allowing said natural development of said plant,

wherein expression of said PAP-S  $\alpha$  protein induces cell death in said specific cells of said plant.

Claim 49. (new) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule as depicted in SEQ ID NO:7 encoding a mature PAP-S  $\beta$  protein or a nucleic acid molecule that binds under stringent hybridization conditions to SEQ ID NO:7 and encodes a mature PAP-S  $\beta$  protein capable of inducing cell death; and
- (ii) an inducible promoter which induces expression of said mature PAP-S  $\beta$  protein in said specific cells upon exposure of said plant to said pathogen or said chemical or allowing said natural development of said plant,

wherein expression of said PAP-S  $\beta$  protein induces cell death in said specific cells of said plant.

Claim 50. (new) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule encoding a precursor PAP molecule capable of inducing cell death or a precursor PAP molecule capable of

inducing cell death wherein the C-terminal region has been deleted;  
and

- (ii) an inducible promoter which induces expression of said mature precursor PAP molecule in said specific cells upon exposure of said plant to said pathogen or said chemical or allowing said natural development of said plant,

wherein expression of precursor PAP molecule induces cell death in said specific cells of said plant.

Claim 51. (new) The method of inducing cell death in specific cells of a plant according to Claim 50, wherein said nucleic acid molecule encodes a Pro-PAP-S protein.

Claim 52. (new) The method of inducing cell death in specific cells of a plant according to Claim 51, wherein the Pro-Pap-S has the amino acid sequence depicted in SEQ. ID. No.: 2.

Claim 53. (new) The method of inducing cell death in specific cells of a plant according to Claim 51, wherein said nucleic acid molecule encoding the Pro-Pap-S protein is that depicted in SEQ ID NO:1 or a sequence that binds under stringent hybridization conditions to SEQ ID NO:1 and encodes a protein capable of inducing cell death .

Claim 54. (new) The method of inducing a cell death in specific cells of a plant according to any one of Claims 47, 48, 49, 50, 51, 52 or 53 wherein said inducible promoter is induced in pollen cells, anther cells, tapetum cells, ovule cells, cells at a nematode feeding site, cells at an abscission zone, sepal cells, carpel cells, stamen cells, trichome cells or seed cells.

Claim 55. (new) A plant comprising specific cells in which a cell death effect is induced by the method of any one of Claims 46, 47, 48, 49, 50, 51, 52 or 53.

Claim 56. (new) A molecule comprising

- (i) a nucleic acid molecule encoding a mature pokeweed antiviral protein;  
and

- (ii) an inducible promoter which induces expression of said mature pokeweed antiviral protein in said specific cells upon exposing said plant to a pathogen or a chemical or through natural development of said plant.

Claim 57. (new) The method of Claim 46, wherein said inducible promoter is induced in pollen cells, anther cells, tapetum cells, ovule cells, cells at a nematode feeding site, cells at an abscission zone, sepal cells, carpel cells, stamen cells, trichome cells or seed cells.

Claim 58. (new) The method of Claim 46, wherein said coding sequence encodes a mature pokeweed antiviral protein, a mature PAP-S protein, a pro-PAP-S protein, a PAP-S  $\beta$  protein, or PAP-S  $\alpha$  protein.

Claim 59. (new) A method of inducing cell death in specific cells of a plant comprising:

- a) transforming plant cells with a chimaeric gene comprising
  - (i) a nucleic acid molecule encoding a mature pokeweed antiviral protein; and
  - (ii) an inducible promoter which induces expression of the mature pokeweed antiviral protein in said specific cells upon exposing said plant to a pathogen or a chemical or allowing natural development of said plant,
- b) regenerating a plant from said transformed cells, and
- c) exposing said regenerated plant to a pathogen or a chemical or allowing natural development of said regenerated plant,

wherein expression of said mature pokeweed antiviral protein induces cell death in said specific cells of said regenerated plant.

Claim 60. (new) A method of inducing a necrotic effect in specific cells of a plant comprising:

- a) transforming plant cells with a chimaeric gene comprising
  - (i) a nucleic acid molecule encoding a precursor PAP molecule capable of inducing cell death or a precursor PAP molecule capable of

inducing cell death wherein the C-terminal region has been deleted;  
and

- (ii) an inducible promoter which induces expression of mature pokeweed antiviral protein in said specific cells upon exposing of said plant to a pathogen or a chemical or allowing natural development of said plant,
- b) regenerating a plant from said transformed cells, and
- c) exposing said regenerated plant to a pathogen or a chemical or allowing natural development of said regenerated plant,

wherein expression of mature pokeweed antiviral protein induces cell death in said specific cells of said regenerated plant.

Claim 61. (new) The method of any of claims 46-53 or 57-60 wherein the inducible pathogen is *Globodera* spp., *Heterodera* spp., *Meloidogyne* spp., or a virus.

Claim 62. (new) The method of any of claims 46-53 or 57-60 wherein the inducible promoter is inducible by nematode feeding.

Claim 63. (new) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to said pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule encoding the mature PAP-S protein of SEQ ID NO:4.; and
- (ii) an inducible promoter which induces expression of the mature PAP-S protein in said specific cells upon exposing of said plant to said pathogen or said chemical or allowing natural development of said plant,

wherein expression of the mature PAP-S protein induces cell death in said specific cells of said plant.

Claim 64. (new) A method of inducing cell death in specific cells of a plant comprising exposing of said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic molecule encoding the PAP-S  $\alpha$  protein having the amino acid sequence depicted in SEQ ID NO:6; and
- (ii) an inducible promoter which induces expression of the PAP-S  $\alpha$  protein in said specific cells upon exposing said plant to said pathogen or said chemical or allowing said natural development of said plant,

wherein expression of said PAP-S  $\alpha$  protein induces cell death in said specific cells of said plant.

Claim 65. (new) A method of inducing cell death in specific cells of a plant comprising exposing said plant to a pathogen or a chemical or allowing natural development of said plant, said plant comprising a chimaeric gene comprising:

- (i) a nucleic acid molecule encoding the mature PAP-S  $\beta$  protein of SEQ ID NO:8; and
- (ii) an inducible promoter which induces expression of the mature PAP-S  $\beta$  protein in said specific cells upon exposing of said plant to said pathogen or said chemical or allowing said natural development of said plant,

wherein expression of said PAP-S  $\beta$  protein induces cell death in said specific cells of said plant.